Economical
- Maximum efficiency of 98.3 %
- Shade management with OptiTrac Global Peak
- Active temperature management with OptiCool

Flexible
- DC input voltage of up to 1,000 V
- Integrated grid management functions
- Reactive power supply
- Module-tailored system design with Optiflex

Communicative
- SMA Webconnect
- Sunny Portal communication
- *Bluetooth*® communication
- Simple country configuration
- Multifunction relay comes standard

Easy-to-Use
- Three-phase feed-in
- Cable connection without tools
- SUNCLIX DC plug-in system
- Integrated ESS (Electronic Solar Switch)
- Easy wall mounting

SUNNY TRIPOWER 5000TL – 12000TL

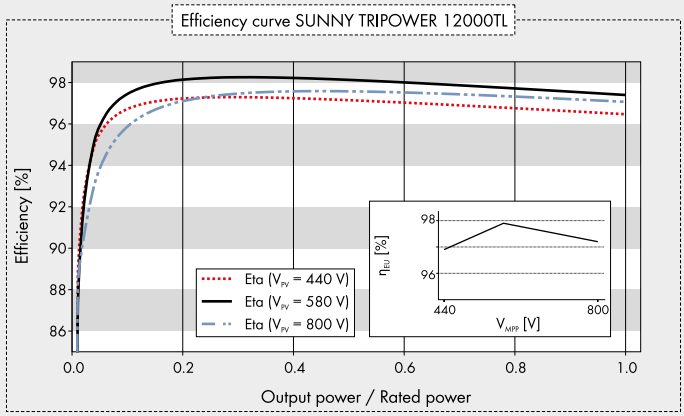
The Three-Phase Inverter – Not Only for Your Home...

...but also perfectly suited to the design of the traditional residential PV system up to the higher power outage range. After all, with the addition of the new 10 kVA and 12 kVA versions to the portfolio, the Sunny Tripower product range covers a broad spectrum of applications. Users benefit from numerous tried-and-tested product features. Highly flexible with its proven Optiflex technology and asymmetrical multistring, it delivers maximum yields with a top efficiency rating and OptiTrac Global Peak. In addition to *Bluetooth* communication, it also comes standard with a direct Sunny Portal connection via SMA Webconnect. Other standard features include integrated grid management functions, reactive power supply and suitability for operation with a 30 mA RCD. In summary, when it comes to system design in the 5 to 12 kW power classes, the Sunny Tripower is the optimum product solution – for applications ranging from use in your own home and larger PV rooftop systems to implementation of smaller-scale PV farms.

SUNNY TRIPOWER
5000TL / 6000TL / 7000TL / 8000TL / 9000TL / 10000TL / 12000TL

Technical Data	Sunny Tripower 5000TL	Sunny Tripower 6000TL
Input (DC)		
Max. DC power (@ cos ϕ = 1)	5100 W	6125 W
Max. input voltage	1000 V	1000 V
MPP voltage range / rated input voltage	245 V ... 800 V/580 V	295 V ... 800 V/580 V
Min. input voltage / start input voltage	150 V / 188 V	150 V / 188 V
Max. input current input A / input B	11 A / 10 A	11 A / 10 A
Max. input current per string input A / input B	11 A / 10 A	11 A / 10 A
Number of independent MPP inputs / strings per MPP input	2 / A:2; B:2	2 / A:2; B:2
Output (AC)		
Rated power (@ 230 V, 50 Hz)	5000 W	6000 W
Max. AC apparent power	5000 VA	6000 VA
Nominal AC voltage	3 / N / PE; 220 / 380 V 3 / N / PE; 230 / 400 V 3 / N / PE; 240 / 415 V	3 / N / PE; 220 / 380 V 3 / N / PE; 230 / 400 V 3 / N / PE; 240 / 415 V
Nominal AC voltage range	160 ... 280 V	160 V ... 280 V
AC grid frequency / range	50 Hz, 60 Hz / -5 Hz ... +5 Hz	50 Hz, 60 Hz / -5 Hz ... +5 Hz
Rated power frequency / rated grid voltage	50 Hz / 230 V	50 Hz / 230 V
Max. output current	7.3 A	8.7 A
Power factor at rated power	1	1
Adjustable displacement power factor	0.8 overexcited ... 0.8 underexcited	0.8 overexcited ... 0.8 underexcited
Feed-in phases / connection phases	3 / 3	3 / 3
Efficiency		
Max. efficiency / European efficiency	98 % / 97.1 %	98 % / 97.4 %
Protective devices		
DC disconnect device	●	●
Ground fault monitoring / grid monitoring	● / ●	● / ●
DC reverse polarity protection / AC short-circuit current capability / galvanically isolated	● / ● / –	● / ● / –
All-pole sensitive residual-current monitoring unit	●	●
Protection class (according to IEC 62103)/overvoltage category (according to IEC 60664-1)	I / III	I / III
General data		
Dimensions (W / H / D)	470 / 730 / 240 mm (18.5 / 28.7 / 9.5 inch)	470 / 730 / 240 mm (18.5 / 28.7 / 9.5 inch)
Weight	37 kg (81.6 lb)	37 kg (81.6 lb)
Operating temperature range	-25 °C ... +60 °C (-13 °F ... +140 °F)	-25 °C ... +60 °C (-13 °F ... +140 °F)
Noise emission (typical)	40 dB(A)	40 dB(A)
Self-consumption (at night)	1 W	1 W
Topology / cooling concept	Transformerless / Opticool	Transformerless / Opticool
Degree of protection (according to IEC 60529)	IP65	IP65
Climatic category (according to IEC 60721-3-4)	4K4H	4K4H
Maximum permissible value for relative humidity (non-condensing)	100 %	100 %
Features		
DC connection / AC connection	SUNCLIX / spring-cage terminal	SUNCLIX / spring-cage terminal
Display	Graphic	Graphic
Interface: RS485, Bluetooth, Speedwire / Webconnect	○ / ● / ●	○ / ● / ●
Multifunction relay / Power Control Module	● / ○	● / ○
Guarantee: 5 / 10 / 15 / 20 / 25 years	● / ○ / ○ / ○ / ○	● / ○ / ○ / ○ / ○
Certificates and permits (more available on request)	AS 4777, CE, CEI 0-21[3], C10/11:2012, DIN EN 62109-1, EN 50438[1], G59/3, G83/2, IEC 61727/MEA[2], IEC 61727/PEA[2], IEC 62109-2, NEN EN 50438, NRS 097-2-1, PPC, PPDS, RD 661/2007, RD 1699:2011, SI 4777, UTE C15-712-1, VDE0126-1-1, VDE AR-N 4105, VFR 2013, VFR 2014	
Type designation	STP 5000TL-20	STP 6000TL-20

Sunny Tripower 7000TL	Sunny Tripower 8000TL	Sunny Tripower 9000TL
7175 W	8200 W	9225 W
1000 V	1000 V	1000 V
290 V ... 800 V / 580 V	330 V ... 800 V / 580 V	370 V ... 800 V / 580 V
150 V / 188 V	150 V / 188 V	150 V / 188 V
15 A / 10 A	15 A / 10 A	15 A / 10 A
15 A / 10 A	15 A / 10 A	15 A / 10 A
2 / A:2; B:2	2 / A:2; B:2	2 / A:2; B:2
7000 W	8000 W	9000 W
7000 VA	8000 VA	9000 VA
3 / N / PE; 220 / 380 V 3 / N / PE; 230 / 400 V 3 / N / PE; 240 / 415 V	3 / N / PE; 220 / 380 V 3 / N / PE; 230 / 400 V 3 / N / PE; 240 / 415 V	3 / N / PE; 220 / 380 V 3 / N / PE; 230 / 400 V 3 / N / PE; 240 / 415 V
160 V ... 280 V	160 V ... 280 V	160 V ... 280 V
50 Hz, 60 Hz / -5 Hz ... +5 Hz	50 Hz, 60 Hz / -5 Hz ... +5 Hz	50 Hz, 60 Hz / -5 Hz ... +5 Hz
50 Hz / 230 V	50 Hz / 230 V	50 Hz / 230 V
10.2 A	11.6 A	13.1 A
1	1	1
0.8 overexcited ... 0.8 underexcited	0.8 overexcited ... 0.8 underexcited	0.8 overexcited ... 0.8 underexcited
3 / 3	3 / 3	3 / 3
98 % / 97.5 %	98 % / 97.6 %	98 % / 97.6 %
●	●	●
● / ●	● / ●	● / ●
● / ● / –	● / ● / –	● / ● / –
●	●	●
I / III	I / III	I / III
470 / 730 / 240 mm (18.5 / 28.7 / 9.5 inch)	470 / 730 / 240 mm (18.5 / 28.7 / 9.5 inch)	470 / 730 / 240 mm (18.5 / 28.7 / 9.5 inch)
37 kg (81.6 lb)	37 kg (81.6 lb)	37 kg (81.6 lb)
-25 °C ... +60 °C (-13 °F ... +140 °F)	-25 °C ... +60 °C (-13 °F ... +140 °F)	-25 °C ... +60 °C (-13 °F ... +140 °F)
40 dB(A)	40 dB(A)	40 dB(A)
1 W	1 W	1 W
Transformerless / Opticool	Transformerless / Opticool	Transformerless / Opticool
IP65	IP65	IP65
4K4H	4K4H	4K4H
100 %	100 %	100 %
SUNCLIX / spring-cage terminal	SUNCLIX / spring-cage terminal	SUNCLIX / spring-cage terminal
Graphic	Graphic	Graphic
○ / ● / ●	○ / ● / ●	○ / ● / ●
● / ○	● / ○	● / ○
● / ○ / ○ / ○ / ○	● / ○ / ○ / ○ / ○	● / ○ / ○ / ○ / ○
AS 4777, CE, CEI 0-21[3], C10/11:2012, DIN EN 62109-1, EN 50438[1], G59/3, G83/2, IEC 61727/MEA[2], IEC 61727/PEA[2], IEC 62109-2, NEN EN 50438, NRS 097-2-1, PPC, PPDS, RD 661/2007, RD 1699:2011, SI 4777, UTE C15-712-1, VDE0126-1-1, VDE AR-N 4105, VFR 2013, VFR 2014		
STP 7000TL-20	STP 8000TL-20	STP 9000TL-20



Accessories

Power Controle Module
PWCBRD-10

RS485 interface
485BRD-10

[1] Does not apply to all national appendices of EN 50438
[2] Only STP 9000TL-20
[3] Only with external NS protection
[4] AS 4777, SI4777 available as of September 1, 2014
[5] Available as of October 2014

● Standard feature ○ Optional feature – Not available
Last updated: August 2014
Data at nominal conditions

Sunny Tripower 10000TL	**Sunny Tripower 12000TL**[5]	
10250 W	12275 W	
1000 V	1000 V	
370 V ... 800 V / 580 V	440 V ... 800 V / 580 V	
150 V / 188 V	150 V / 188 V	
18 A / 10 A	18 A / 10 A	
18 A / 10 A	18 A / 10 A	
2 / A:2; B:2	2 / A:2; B:2	
10000 W	12000 W	
10000 VA	12000 VA	
3 / N / PE; 220 / 380 V 3 / N / PE; 230 / 400 V 3 / N / PE; 240 / 415 V	3 / N / PE; 220 / 380 V 3 / N / PE; 230 / 400 V 3 / N / PE; 240 / 415 V	
160 V ... 280 V	160 V ... 280 V	
50 Hz, 60 Hz / -5 Hz ... +5 Hz	50 Hz, 60 Hz / -5 Hz ... +5 Hz	
50 Hz / 230 V	50 Hz / 230 V	
14.5 A	17.4 A	
1	1	
0.8 overexcited ... 0.8 underexcited	0.8 overexcited ... 0.8 underexcited	
3 / 3	3 / 3	
98 % / 97.6 %	98.3 % / 97.9 %	
●	●	
● / ●	● / ●	
● / ● / –	● / ● / –	
●	●	
I / III	I / III	
470 / 730 / 240 mm (18.5 / 28.7 / 9.5 inches)	470 / 730 / 240 mm (18.5 / 28.7 / 9.5 inch)	
37 kg (81.6 lb)	38 kg / 84 lbs	
-25°C ... +60 °C (-13 °F ... +140 °F)	-25°C ... +60 °C (-13 °F ... +140 °F)	
40 dB(A)	40 dB(A)	
1 W	1 W	
Transformerless / Opticool	Transformerless / Opticool	
IP65	IP65	
4K4H	4K4H	
100 %	100 %	
SUNCLIX / spring-cage terminal	SUNCLIX / spring-cage terminal	
Graphic	Graphic	
○ / ● / ●	○ / ● / ●	
● / ○	● / ○	
● / ○ / ○ / ○ / ○	● / ○ / ○ / ○ / ○	
AS 4777[4], CE, CEI 0-21[3], C10/11:2012, DIN EN 62109-1, EN 50438[1], G59/3, G83/2, IEC 61727/MEA[2], IEC 61727/PEA[2], IEC 62109-2, NEN EN 50438, NRS 097-2-1, PPC, PPDS, RD 661/2007, RD 1699:2011, SI 4777[4], UTE C15-712-1, VDE0126-1-1, VDE AR-N 4105, VFR 2013, VFR 2014		
STP 10000TL-20	STP 12000TL-20	

www.SunnyPortal.com

Professional management, monitoring and presentation of PV plants

ENERGY
THAT
CHANGES

www.SMA-Solar.com

Status: August 2014

STP12000TL-DEN1433 SMA and Sunny Tripower are registered trademarks of SMA Solar Technology AG. Bluetooth® is a registered trademark of Bluetooth SIG, Inc. SUNCLIX is a registered trademark of PHOENIX CONTACT GmbH & Co. KG. Printed on FSC-certified paper.
All products and services described as well as technical data are subject to change, even for reasons of country-specific deviations, at any time without notice. SMA assumes no liability for errors or omissions. For current information, see www.SMA-Solar.com